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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,920	09/20/2000	Belgacem Haba	RB1-008US	8524

29150 7590 07/17/2002

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EXAMINER

PHAN, THANH S

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/665,920

Applicant(s)

HABA ET AL.

Examiner

Thanh S Phan

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 11-21, and 23-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wen (U.S Pat# 5,943,573) in view of Mettler, Jr. [4,567,545] and Tamarkin et al. [6,049,467].

Wen discloses an apparatus (Figure 4D) comprising: a substrate (reference 40) having a first elongated edge and a second elongated edge, wherein the elongated edges are opposite one another; a plurality of channels (references 43a, 43b) extending from the first elongated edge to the second elongated edge, a plurality of memory devices disposed on the substrate; and wherein each of the plurality of memory devices is coupled to one of the plurality of channels (Column 1, lines 36-44).

Wen disclose the instant claimed invention except for: electrical contacts at the opposite edges of the substrate configured to allow communications through the channels via the electrical contacts, and connecting portions at both ends of the module.

Mettler, Jr. discloses a substrate [46] supporting at least one integrated circuit chip [26] having a plurality of electrical contacts [48] connected at an end of the substrate by means of connectors [52, figure 7].

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the connection design of Mettler, Jr. for the memory module of Wen for the purpose of interconnecting the modules.

Tamarkin et al. disclose a plurality of memory modules each having a plurality of electrical contacts and having connection means at opposing ends [figure2].

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the connection design of Tamarkin et al. in Wen, as modified, for the purpose facilitating communication between a plurality of memory modules.

Regarding claim 5. Wen discloses an apparatus as recited in claim 1 wherein each channel includes a plurality of conductors, the plurality of conductors having lengths that are approximately equal (Figure 4d).

Wen and Mettler, Jr. disclose the electrical contacts being substantially the same length and extending across the modules.

Wen, as modified, discloses an apparatus as recited in claim 7. Wen further discloses wherein the channel portion to includes a plurality of conductors having lengths that are approximately equal (Figure 4d).

To add additional substrate modules would have been an obvious design consideration base on the desired memory capacity.

Tamarkin et al. disclose the memory modules being used on a mother board [12].

It would have been obvious to a person having ordinary skill in the art at the time invention was made to use the memory board with a mother board for the purpose of providing control circuitry for the memory modules.

It would have been obvious that the claimed method steps would have been inherent in the product structure.

Response to Arguments

Applicant's arguments with respect to claims 1-8, 11-21, and 23-38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh S Phan whose telephone number is 703-305-0069. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David S Martin can be reached on 703-308-3121. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7722 for regular communications and 703-305-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TSP
July 14, 2002

A handwritten signature in black ink, appearing to read 'D. Martin', with a stylized, overlapping 'M'.

**DAVID MARTIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**